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Your Health Connection

HealthFAX

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Clinician Update: Rotavirus Clarification and Lyme Disease Resources

Attention: Physicians, Emergency Departments, Infection Control Practitioners, Nurse Practitioners, Walk-In Clinics/Urgent Care Clinics, Central LHIN, NSM LHIN

Date: August 2, 2018

Correction to Rotavirus Health Fax

It has been brought to our attention that there has been confusion as to some of the wording in Table 2 of the Rotavirus Health Fax sent July 24, 2018. Please review the corrected bolded revisions in Table 2 below.

Table 2: Scenarios to Complete RV Vaccine Series

Scenario	Response
1st dose of Rotarix® was given at 2 months and Rotarix® is available	Provide 2nd dose of Rotarix® at 4 months of age. Series complete.
1st dose of Rotarix® was given at 2 months and Rotarix® is not available	Provide a 2nd dose of RotaTeq® at 4 months and a 3rd dose of RotaTeq® at 6 months of age. Series complete.
If the product is unknown for the 1st dose of rotavirus vaccine (e.g., infant arrives from out of province with an immunization record that does not specify which rotavirus vaccine was received)	**Provide a 2nd dose of RotaTeq® at 4 months and a 3rd dose of RotaTeq® at 6 months of age. Series complete.**

If you have any further questions please call the Simcoe Muskoka District Health Unit's Immunization Program at 705-721-7520 ext. 8806 or toll free at 1-877-751-7520 ext. 8806 Monday to Friday between 8:30 am - 4:30 pm.

Lyme Disease

In our May 31, 2018 Health Fax related to Lyme Disease and West Nile Virus, SMDHU referenced a provincial clinical guidance document that was not yet available. The document titled *Management of Tick Bites and Investigation of Early Localized Lyme Disease* produced by Health Quality Ontario includes an algorithm which is **now available at:** http://www.hqontario.ca/Portals/0/documents/evidence/qs-clinical-guidance-lyme-disease-en.pdf

Attached is the guidance document (3 pages).

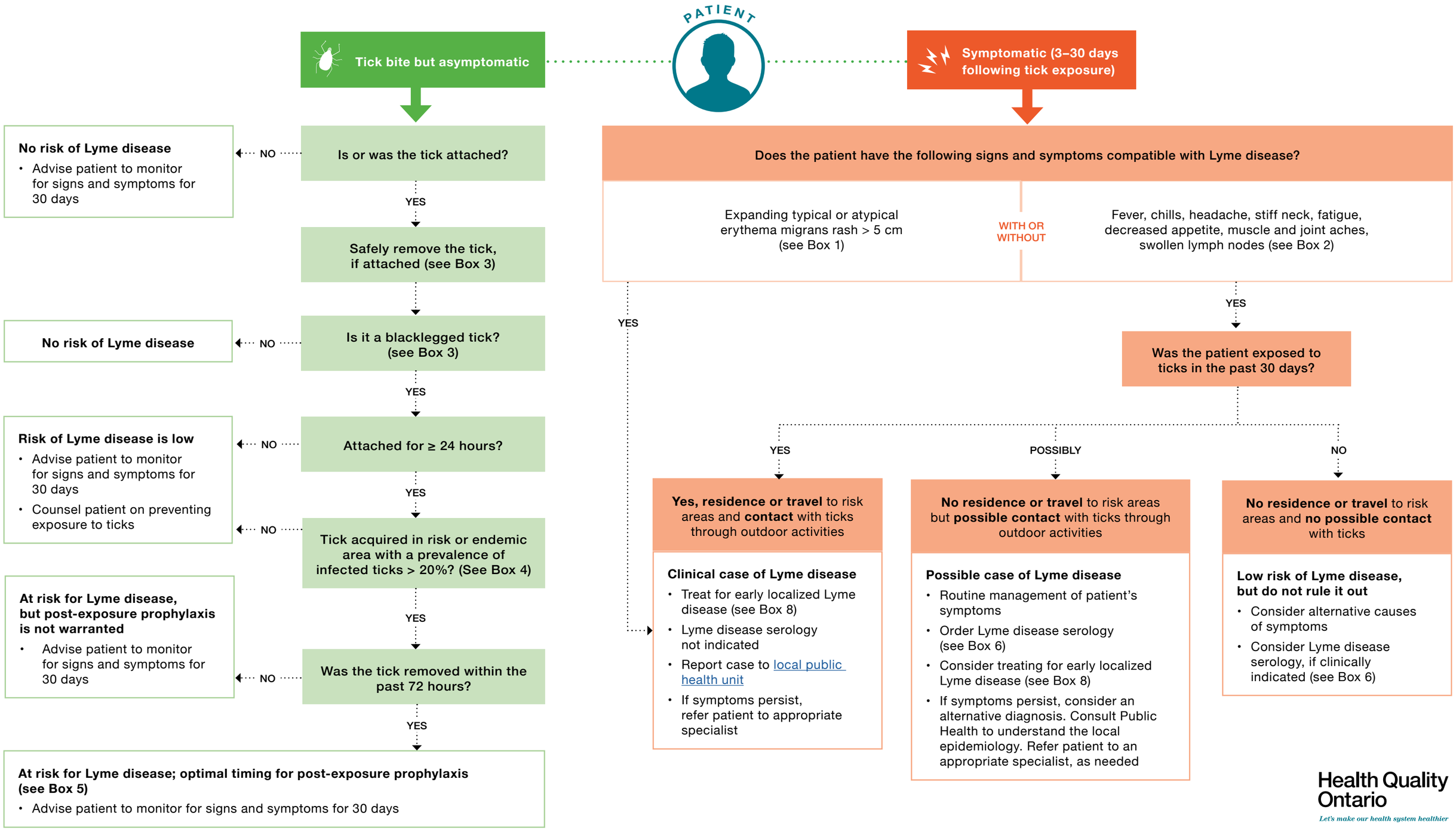
For more information on infectious diseases in Simcoe Muskoka please visit the Health Professionals Portal at: www.smdhu.org/HPPortal

Note: SMDHU has launched its **new interactive Diseases of Public Health Significance Toolkit** which provides easier access to disease specific testing, treatment recommendations and patient and clinician resources. Available at: http://www.smdhu.org/reportablediseaselist

CLINICAL GUIDANCE DOCUMENT

Management of Tick Bites and Investigation of Early Localized Lyme Disease

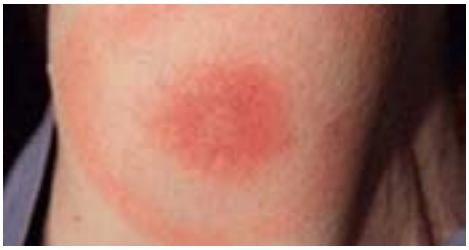
Please contact us at **evidence@hqontario.ca** or **1-866-623-6868** if you have any questions or feedback about this clinical guidance document.

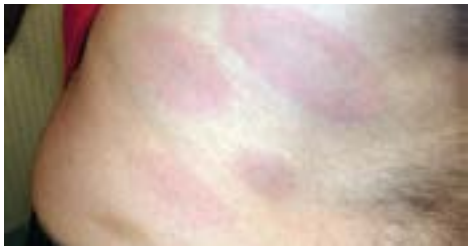


Health Quality Ontario

Let's make our health system healthier

Box 1. Clinical Manifestations of Early Localized Lyme Disease: Erythema Migrans Rashes





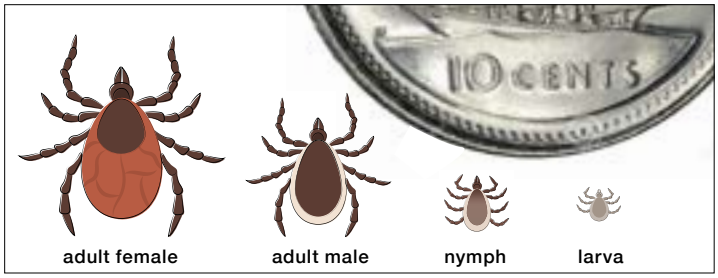
Additional images of typical and atypical rashes are available on Health Canada's website; please see "Early localized Lyme disease (< 30 days)."

Note: People with darker skin tones may present with a bruise-like rash.

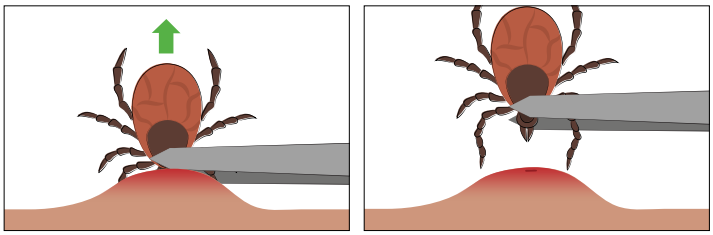
Box 2. Prevalence of Symptoms in Patients Presenting With Possible Early Localized Lyme Disease

- Erythema migrans rash (typical or atypical) ~70%
- Fatigue 54%
- Myalgia 44%
- Headache 42%
- Fever/chills 39%
- Stiff neck 35%
- Decreased appetite 26%

Box 3. Blacklegged Ticks at Various Stages and Safe Tick Removal



For more images, please go to: Centers for Disease Control and Prevention.



For instructions, please see Centers for Disease Control and Prevention.

Box 4. Areas of Risk for Lyme Disease

- The risk of acquiring Lyme disease varies across geographical regions. Please click to see the risks in Ontario, Canada, and the United States.
- In Europe, the areas of highest risk are in Central and Eastern Europe, but infected ticks have also been found in Southern Scandinavia and up to the northern Mediterranean region.

Box 5. Post-Exposure Prophylaxis

The risk of developing Lyme disease following a tick bite by an infected tick is between 1% and 3%. In Ontario, the prevalence of infected ticks varies by geographic region. In many instances, it is reasonable to adopt the "wait and see" approach and treat patients if they develop symptoms compatible with Lyme disease. Counsel patients to watch for the development of early signs and symptoms for 30 days, and advise patients that other tick-borne infections may result in signs or symptoms too.

Based on the best available evidence, post-exposure prophylaxis can be considered if these four criteria are met:

1. The tick was attached > 24 hours
2. The tick was removed within the past 72 hours
3. The tick was acquired in an area with a prevalence of ticks infected with *Borrelia burgdorferi* > 20% (e.g., Rouge National Urban Park and Morningside Park in the Greater Toronto Area, Brighton, Kingston and surrounding areas, Thousand Islands, Brockville, Perth-Smiths Falls and surrounding areas, Ottawa and surrounding areas, and Rondeau Provincial Park in Morpeth*)
4. Doxycycline is not contraindicated (Doxycycline is contraindicated for pregnant people and for children < 8 years old. There is insufficient evidence for the prophylactic use of other medications, such as amoxicillin, in these populations)

Adults: 1 dose of doxycycline 200 mg, by mouth

Children ≥ 8 years: 1 dose of doxycycline 4 mg/kg, up to a maximum dose of 200 mg, by mouth

*Note: This is not a comprehensive list of higher-risk areas in Ontario. For more information, please refer to the Ontario Lyme Disease Map.

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Wormser GP, Dattwyler RJ, Shapiro ED, Halperin JJ, Steere AC, Klempner MS, et al. The clinical assessment, treatment, and prevention of Lyme disease, human granulocytic anaplasmosis, and babesiosis: clinical practice guidelines by the Infectious Diseases Society of America. Clin Infect Dis. 2006;43(9):1089–134.

Box 6. Laboratory Testing

- Laboratory testing is not indicated for asymptomatic patients
- Serological testing may not yield positive results during early localized Lyme disease, so management should not be based on serological testing results during this phase
- Antibiotic treatment in early disease may reduce seroconversion; testing should not be used to monitor treatment outcome
- Following exposure to *Borrelia burgdorferi*, immunoglobulin M (IgM) antibodies are detected within 2–4 weeks, and IgG antibodies within 4-6 weeks
- Public Health Ontario uses a two-step testing algorithm to maximize sensitivity and specificity (see Box 7)
- For serological testing, please complete the requisition fully and submit it, along with samples, to a public health laboratory for testing
- If European Lyme disease is suspected based on the patient's travel history, please order serology testing specific to European Lyme disease

Box 7. Sensitivity of Serological (Two-Tier) Testing[†] in Patients With Lyme Disease

Erythema migrans, acute phase (early localized disease)	29–40%
Erythema migrans, convalescence phase[‡] (early localized disease)	29–78%
Neurological involvement (early disseminated disease)	87%
Arthritis (late disseminated disease)	97%

[†]Two-tier testing algorithm is based on serum sample initially tested using enzyme-linked immunosorbent assay (ELISA) method. If results of ELISA method are reactive/indeterminate, separate IgM and IgG Western blot tests are performed.

[†]Following antibiotic treatment.

Box 8. Recommendations for Treatment of Patients With Early Localized Lyme Disease

Drugs	Dosage for Adults	Dosage for Children
Preferred		
Doxycycline	100 mg twice a day for 21 days Contraindicated for pregnant or lactating people	Not recommended for children < 8 years of age For children aged 9–12 years of age < 45 kg: 5 mg/kg/day in 2 divided doses on day 1, followed by 2.5 mg/kg/day in 1 or 2 divided doses, for a total of 21 days For severe infections, up to 5 mg/kg/day for 21 days
Amoxicillin	1 g three times a day for 21 days	For children ≤ 12 years of age ≤ 33 kg: 30 mg/kg three times a day for 21 days
Cefuroxime	500 mg twice per day for 14–21 days	For children > 8 years of age: 30 mg/kg/day divided in 2 doses (maximum 500 mg/dose) for 14–21 days
For Allergy or Intolerance[§]		
Azithromycin	500 mg/d for 17 days	For children ≤12 years of age ≤ 50 kg: 10 mg/kg/day for 17 days
Clarithromycin	500 mg twice a day for 14–21 days Relatively contraindicated in pregnant people	For children > 8 years of age: 7.5 mg/kg twice a day (maximum 500 mg/day) for 14–21 days
Erythromycin	500 mg four times a day for 14–21 days	For children > 8 years of age: 12.5 mg/kg four times a day (maximum dose 500 mg/day) for 14–21 days

[§]Patients treated with macrolides should be closely monitored to ensure resolution of clinical symptoms as macrolides are less effective.

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